REMARKS/ARGUMENTS

Claims 1-5 and 7-20 of the present application have been rejected by the Examiner. The Examiner has recognized allowable subject matter in claim 6. Claims 1-5 and 7-20 have been rejected under 35 U.S.C. §102(b) as being unpatentable over United States Patent No. 5,408,218 to Svedberg ("Svedberg").

With regard to the rejection of claim1, applicants respectfully disagree with the position of the Examiner. Svedberg teaches a model-based coordination system for coordinating primary and secondary alarms in order to ascertain whether the alarms are caused by a single fault or multiple faults and to determine the location of the fault. Svedberg is a method of root cause failure determination in an electrical system. The flow diagram of FIG. 11 is instructive. Once an error (fault) is detected the only question is whether the current managed object (MO) is causing the fault. If it is then a fault identifier is created and information on the fault is sent to functionally dependent managed objects. If the current MO is not at fault then the system determines whether the fault is caused by one or more server MOs. The types of faults that are being detected are faults in the physical layer as indicated by FIG. 10 which depicts an external cable wherein a failure of the cable would lead to independent primary fault notifications from each port unless the cable is modeled as an MO. Thus, the system of Svedberg enables faults to be properly grouped and reported.

The present invention is distinguished from Svedberg in a number of ways. A first primary difference is that the method and system of the present invention is directed to a prioritization and handling of service alarms. Service alarms are a type of alarm that was not contemplated by Svedberg. Svedberg does not teach or suggest the use of a service model dependency graph in order to handle service alarms or alerts. A telecommunications service is comprised of a plurality of service components as depicted in FIGS. 1-9 and 13 of the present application. A service may be dependent upon physical layer components as well as components in other layers of the network. The dependency in a service model dependency graph (unlike in Svedberg) is not strictly a function of physical interconnectivity. Additionally, a key element of the present invention is the use of a component status indicator (CSI) for a component based on a set of pre-defined rules and the CSI of downstream components and alert handle information. At each component a CSI generated based on the impact a downstream alert and CSI has on a specific service. This enables the system to determine whether an alert is actually service impacting and therefore important enough to propagate further or whether propagation of the alert

should be halted at a specific component. This neither taught nor suggested by Svedberg. Svedberg is aimed only at localization of the alarm in order to determine the location of a fault for purposes of correcting the fault and for alerting connected MOs of the fault. There is no teaching or suggestion of a set of rules that generates a component status indicator for a component based on the CSI of a downstream component.

The Examiner cites column 7, lines 49-68 of Svedberg as teaching the use of a service model dependency graph of the present invention. Applicants submit that Svedberg teaches only the use of a physical layer (electrical system) dependency model that is used to propagate alarms from one electrically connected physical component to another. This does not equate to the service dependency graph of the present invention. There is no use of a component status indicator generated based on alerts and CSI's from other components as in the present invention. Svedberg simply propagates an alarm, determines if the alarm is local to an MO and them propagates an alarm handle to connected MOs that identifies the location of the alarm. In this manner an upstream MO that is not working knows that its failure is due to a different MO and can pass this information on.

With respect to claim 2 there is no teaching or suggestion in Svedberg of having a component status indicator that is associated with a path an alert handle has taken through the service model dependency graph. First, there is no teaching of a service model dependency graph. Second, the Examiner relies broadly on FIGS. 4-7 as showing this feature of the present invention but there is no text that describes such a path.

Claim 3 is neither taught nor suggested by Svedberg. The Examiner cites column 8, lines 16-31 as teaching the use of a handle that includes information about the time of the alert, the type of the alert and the duration of the alert. Applicants respectfully disagree. The cited passage of Svedberg discusses the detection of faults in the electrical system and the time for detection of the fault and propagation of a fault identification message by the MO. This is not the same as placing information about the alert's time, type and duration in a handle as in the present invention.

Claim 4 is neither taught nor suggested by Svedberg. The Examiner only generally cites FIGS. 4-7 of Svedberg as teaching the step of generating a service impact index at the top level of the service model dependency graph wherein the service impact index is an indicator of the impact of downstream alerts on the quality of service. This is neither taught nor suggested by Svedberg which does not teach the use of a service model dependency graph or the generation of a service impact index. Svedberg does not discuss the concept of quality of service. Svedberg is

not about quality of service but rather only about the localization of electrical physical layer faults. Quality of service can be affected by physical layer faults, software faults, usage and many other factors.

Applicants respectfully disagree that claim 5 is either taught or suggested by Svedberg. Claim 5 adds the step of summing the service impact indexes to generate a total impact index. This is neither taught nor suggested by FIG. 9 or the accompanying text of Svedberg. Fig. 9 depicts a "pool" MO and its relationship with pool members. FIG. 10 is an example of such a "pool" MO which enables a failure to be modeled as a single failure rather than several independent failures. This is not the same as the summing of the service impact index to create a total impact index. The total impact index is used by the network operator to determine whether there is a serious degradation of quality of service based on a plurality of service impact indexes. The service impact indexes themselves being generated based in a plurality of component status indicators. It does not refer to pooling a set of faults to be modeled as a single fault.

Claims 7 and 8 indicate how different the systems of Svedberg and the present invention are. In claim 7, a root cause analysis is performed if the system determines if there is a service impacting component status indicator. Svedberg is only about determination of the root cause and identification of the location of an alarm. There is no teaching or suggestion in Svedberg that this root cause analysis is performed only if there is a service impacting component status indicator. There is no discussion in Svedberg of retrieving the path that service-affecting handles have taken through the service dependency graph. There is no service dependency graph in Svedberg and there is no mention of a path through such. In Svedberg, a fault is identified at an MO and an alert with the location of the fault is propagated to other MOs that are electrically dependent upon it.

Claims 9 and 10 are neither taught nor suggested by Svedberg. FIGS. 4-7 do not teach or suggest the prioritization of alerts based on the service impact index or the total impact index. There is no discussion of either type of index or even of a service dependency graph in Svedberg.

Claim 11 is neither taught nor suggested by Svedberg because there is no teaching of the generation of a component status indicator based on alerts and component status indicators of other components related in a service dependency graph. Claims 12 and 13 are novel for the same reason.

Claim 14 is neither taught nor suggested by Svedberg because Svedberg does not teach distinguishing between service affecting alerts and others, inherently or otherwise.

Claims 15-20 are distinguished from Svedberg to the same reasons set forth above. The system claimed by claims 15-20 is neither taught nor suggested by Svedberg for the following reasons. There is no discussion in Svedberg of a system for handling alerts wherein a telecommunications network is modeled as a service model dependency graph. Nor is there any teaching of a rule engine which utilizes both the component status indicator of one or more downstream components and handles generated in response to alerts to generate a component status indicator for each component. Furthermore, there is no teaching or suggestion of such a rule engine residing at each component as in claim 16 or in the network operations center as in claim 17. Furthermore there is no teaching of a means for generating a service impact index or a total impact index at the network operation center as claimed in claims 19 and 20. Such means are entirely missing from Svedberg.

Applicants thank the Examiner for recognizing the novelty and non-obviousness of claim 6. Applicants respectfully suggest that claims 1-5 and 7-20 are also allowable over Svedberg. Applicants hereby request reconsideration of claims 1-5 and 7-20 in view of the above remarks and allowance thereof is respectfully requested.

A one-month extension of time is hereby respectfully requested.

Respectfully submitted,

Telcordia Technologies, Inc.

By William A. Schoneman
Reg. No. 38,047
Tel.: (732) 699-3050